

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: GRANITE LAKE	Lake Area (ha):	92.19
Town: STODDARD	Maximum depth (m):	28.9
County: Cheshire	Mean depth (m):	9.8
River Basin: Connecticut	Volume (m <sup>3</sup> ):	9027000
Latitude: 43°01'17" N	Relative depth:	2.7
Longitude: 72°08'31" W	Shore configuration:	1.32
Elevation (ft): 1278	Areal water load (m/yr):	6.64
Shore length (m): 4500	Flushing rate (yr <sup>-1</sup> ):	0.70
Watershed area (ha): 984.2	P retention coeff.:	0.61
% watershed ponded: 0.0	Lake type:	natural w/dam

<u>BIOLOGICAL:</u>		10 February 1997	22 July 1996
DOM. PHYTOPLANKTON (% TOTAL)	#1	SPARSE - A FEW	SPARSE - NO DOMINANT
	#2	DINOBRYON	
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			0.19
DOM. ZOOPLANKTON (% TOTAL)	#1	CALANOID COPEPOD 60%	KERATELLA 39%
	#2		NAUPLIUS LARVA 23%
	#3		CALANOID COPEPOD 18%
ROTIFERS/LITER		<1	28
MICROCRUSTACEA/LITER		5	28
ZOOPLANKTON ABUNDANCE (#/L)		5	56
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			8.0
BOTTOM DISSOLVED OXYGEN (mg/L)		11.8	8.4
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		< 1
	#3		< 1

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 7.6  
Hypolimnion volume (m<sup>3</sup>) : 2260500  
Anoxic volume (m<sup>3</sup>) : None

**CHEMICAL:**

Lake: GRANITE LAKE

Town: STODDARD

	10 February 1997		22 July 1996		
DEPTH (m)	7.0	14.0	3.5	11.5	21.0
pH (units)	5.6	5.2	6.0	5.4	5.4
A.N.C. (Alkalinity)	1.5	1.0	1.1	0.7	0.9
NITRATE NITROGEN	0.05	0.06	< 0.05		0.09
TOTAL KJELDAHL NITROGEN	< 0.10	< 0.10	< 0.10	< 0.10	0.14
TOTAL PHOSPHORUS	0.005	0.004	0.007	0.006	0.007
CONDUCTIVITY ( $\mu$ mhos/cm)	64.5	64.2	64.6	64.5	66.9
APPARENT COLOR (cpu)	5	5	10	10	10
MAGNESIUM			0.90		
CALCIUM			2.0		
SODIUM			7.0		
POTASSIUM			0.66		
CHLORIDE	10	10	10		11
SULFATE	9	9	8		9
TN : TP					33
CALCITE SATURATION INDEX			5.0		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1996**

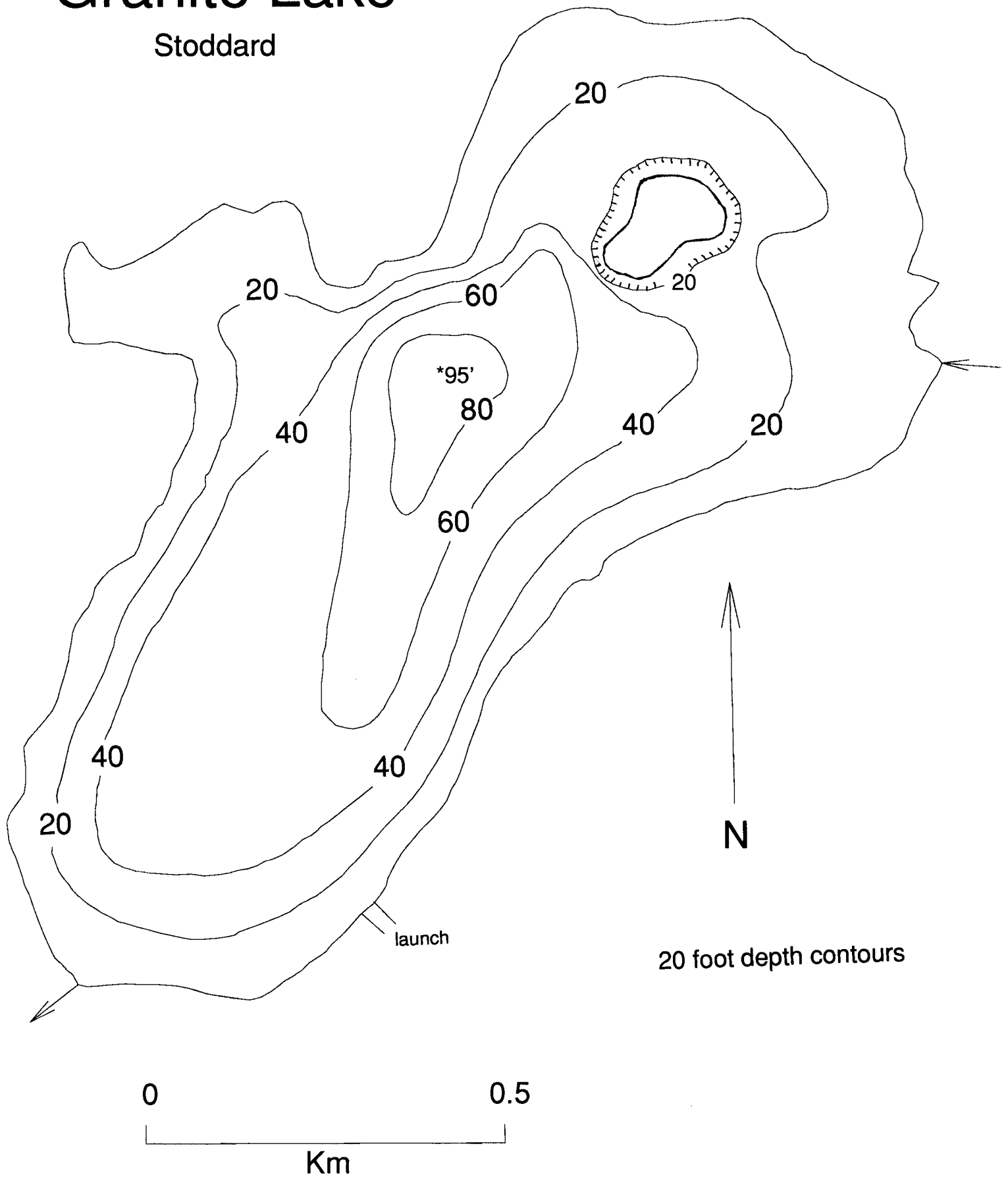
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
0	0	0	0	0	Oligo.

**COMMENTS:**

- Granite Lake was previously surveyed and classified in 1976 and 1985. There was no change in trophic classification or overall water quality over this 20 year period.
- Granite Lake also participates in DES' Volunteer Lake Assessment Program. Annual data collected since 1989 show stable or improving water quality.
- Granite Lake is one of only 12 lakes in the state to receive zero trophic points. It continues to maintain its overall superior quality despite the localized impacts from the Route 9 bypass construction in 1994-95.
- Granite Lake is a clear, oligotrophic, moderately acidic lake with very little buffering capacity (A.N.C.). It supports low levels of biological growth (plankton and macrophytes). Chloride and conductivity levels suggest some but well-diluted amounts of salt from highway deicing reaches the lake.

# Granite Lake

Stoddard



# FIELD DATA SHEET

LAKE: GRANITE LAKE  
DATE: 07/22/96

TOWN: STODDARD  
WEATHER: CLEAR & SUNNY

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	21.5	9.0	101 %
	1.0	21.5	9.0	101 %
	2.0	21.3	9.0	101 %
	3.0	21.2	9.0	101 %
	4.0	21.0	9.0	101 %
	5.0	21.0	9.0	101 %
	6.0	21.0	9.0	101 %
	7.0	20.0	9.6	104 %
	8.0	16.0	12.3	124 %
	9.0	14.0	12.5	120 %
	10.0	11.4	12.6	113 %
	11.0	10.0	12.2	108 %
	12.0	8.9	11.6	97 %
	13.0	8.0	12.0	101 %
	14.0	7.5	11.2	92 %
	15.0	6.8	10.6	84 %
	17.0	6.3	10.0	80 %
	19.0	6.0	9.7	77 %
	21.0	5.5	9.5	73 %
	23.0	5.5	9.2	72 %
	25.0	5.5	8.6	66 %
	27.0	5.5	8.4	65 %

SECCHI DISK (m): 8.0  
BOTTOM DEPTH (m): 27.8  
TIME: 1155

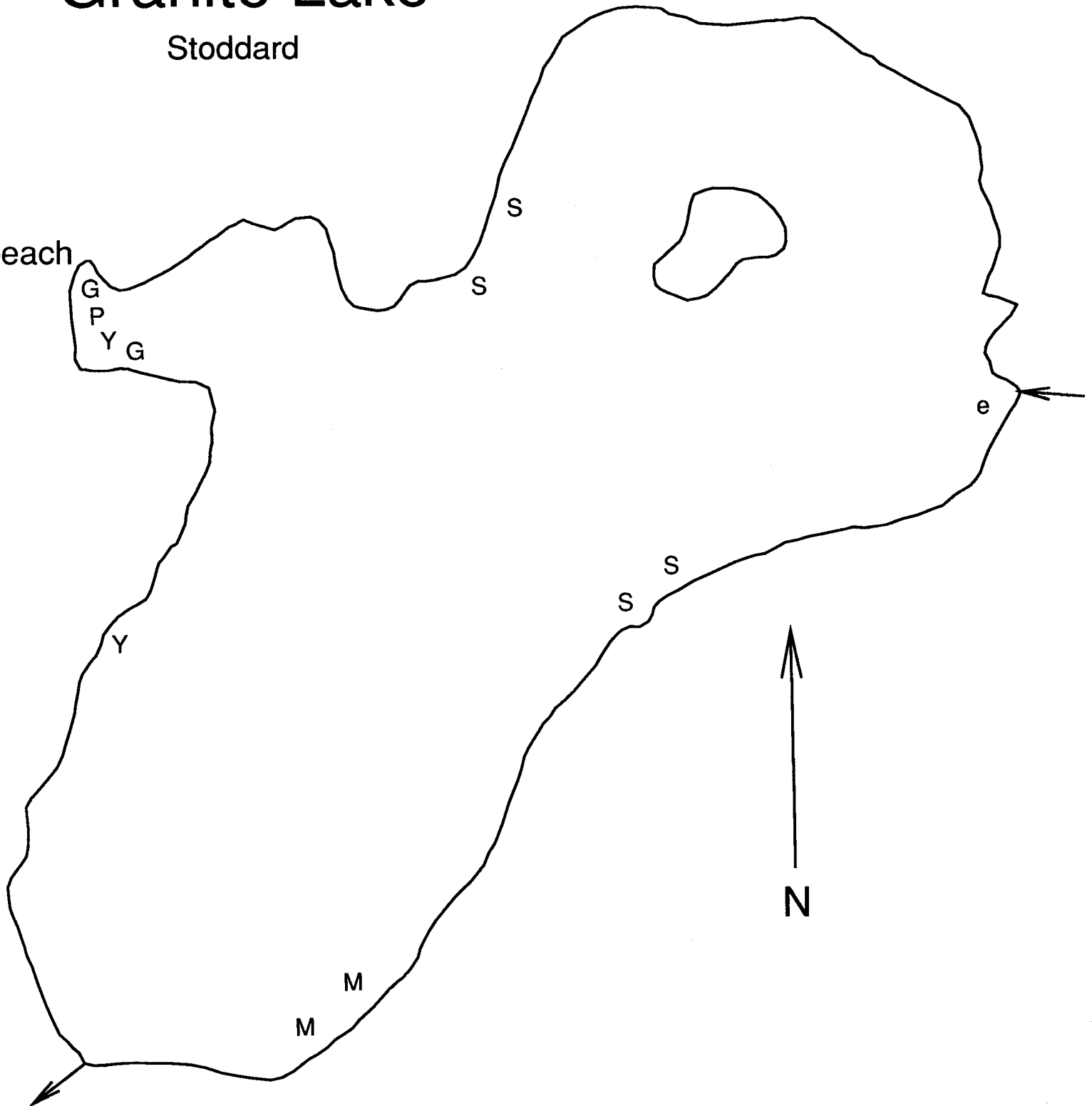
COMMENTS:

\*Dissolved oxygen values are in mg/L

# Granite Lake

Stoddard

beach



0 0.5  
Km

[illegible]